Genetic and Environmental Risks Predicting Patterns of Alcohol Use and Misuse from Adolescence through Early Adulthood

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Abstract

Alcohol use and misuse are primary public health concerns, particularly among adolescents and young adults. Based on the rapidly growing field of gene-environment models, this study sought to assess the combined role of primary environmental and dopamine-related genetic correlates of early alcohol use and misuse. Multilevel growth models were used to assess trajectories of alcohol use and intoxication among a sample of 13,451 youth drawn from the Add Health study who were followed from mid adolescence through the transition to adulthood. Results found no significant effects of the genetic risk score (a combination of alleles from MAOA and DAT1), either independently or in interaction with environmental risks, on males' or females' alcohol use or misuse. In contrast, internal and external stressful life events were the most consistent and strongest predictors of initial levels and growth in alcohol use and misuse, with social norms supportive of alcohol use from peers and parents also showing predictive power. Environmental measures of social control, in contrast, showed few significant associations with youth alcohol use and misuse. Although males reported higher levels of alcohol use and misuse than females, environmental predictors of alcohol behaviors were largely similar for the two sexes.

Key words: alcohol use, GxE interactions, genetic effects, social norms, stressful life events.

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